

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Docket No. 9226

Application of: James E. Pricer, et al.

Group Art Unit: 2153

Serial No.: 09/752,355

Examiner: Strange, Aaron N.

Filed: 12/29/2000

For: IDENTIFYING WEB-LOG DATA REPRESENTING A SINGLE USER
SESSION

DECLARATION OF JAMES E. PRICER UNDER 37 C.F.R § 1.132

TO THE COMMISSIONER FOR PATENTS:

I, James E. Pricer, hereby declare as follows:

1. I am a coinventor in the above-captioned patent application. I am a senior software engineer at Teradata, a subsidiary of NCR Corporation, where I have been employed for 12 years. Prior to that, I was employed with Citibank as a software architect and system software designer, using Teradata's database systems.

2. I have reviewed the Office Action dated September 25, 2006 ("the prior Office Action"). The prior Office Action rejected claims 1-24 of the patent application as being allegedly unpatentable over U.S. Patent Application Publication No. 2002/00428281 to Muret, et al. (Muret) in view of U.S. Patent No. 6,026,394 to Tsuchida, et al. (Tsuchida). In this regard, I also reviewed the Muret and Tsuchida references.

3. Applicants filed a response to the prior Office Action on March 26, 2007. In that response, Applicants amended the independent claims to recite a step or structure for loading data from a plurality of transaction logs of a plurality of Internet servers into a database system managed by plural parallel processing modules, and for executing a

database query across the parallel processing modules using a moving difference database management function to select from the data all entries associated with a particular user and corresponding to a single session of that user.

4. On May 10, 2007, I participated in an interview with the Examiner to discuss the significant differences between the pending claims and the Muret and Tsuchida references. In particular, I discussed the background and general applicability of the invention, and why the combination of Muret and Tsuchida would not accomplish the claimed invention. I also discussed why it would not have been obvious to utilize moving difference functionality in a parallel processing database system to solve the problem identified in the background section of the patent application.

5. In particular, the background section of the patent application discusses the difficulties associated with using the data collected by web servers in trying to reconstruct the 'clickstreams' of individual customers visiting websites within a session. Muret also identifies that "[a] problem with mining the raw log data for useful information is the sheer volume of data that is logged each day ... Providing a robust system that can be used on various platforms, that can efficiently process the huge amounts of data that are logged, and that can produce easy to use reports for each website in an automated fashion is a daunting task."

6. Muret seeks to solve this problem by writing code to be deposited separately on multiple processors. The code is not designed to operate in a parallel processing system. The operating system does not process data in parallel; instead, Muret programmatically does this to be performed manually.

7. If one were to use Muret, one would encounter both performance and maintenance issues. As a first matter, Muret's system would operate slowly because it

requires reading each record individually and sequentially, for each processor. Further, if a change must be made to the code, that change must be propagated individually to each processor.

8. In contrast, the claimed invention tracks the action of an Internet user by loading data from a plurality of transaction logs of a plurality of Internet servers into a database system managed by plural parallel processing modules. By using an inherently parallel database, processing occurs in parallel, rather than sequentially. The improvement in speed by using a parallel database in this manner is exponential.

9. Tsuchida describes a generic parallel processing database. However, Tsuchida provides no teaching as to how to use a parallel processing database system to track activities of an Internet user corresponding to a single session. One of ordinary skill in the art at the time of the invention would not have been motivated to combine Tsuchida with Muret, because at the time of the invention, it was not known to utilize parallel processing database systems for accomplishing this type of task. Secondly, even if one were to have read both Tsuchida and Muret, the combined teaching still would not enable one to devise a parallel processing database system configured for tracking the activities of an Internet user corresponding to a single session.

10. In the response filed on March 26, 2007, Applicants amended the claims to recite the step of executing a database query across the parallel processing modules using a moving difference database management function. The combination of Tsuchida and Muret provides no teaching of the claimed technique for tracking Internet user activities corresponding to a single session by using a moving difference function in a parallel processing database system.

11. In an Office Action dated June 12, 2007 ("the current Office Action"), the Examiner withdrew the rejection of claims 1-24 based on Muret and Tsuchida, noting that Applicants' arguments in the response filed on March 26, 2007 had been fully considered and were persuasive. The current Office Action, however, now rejects claims 1-24 as being allegedly unpatentable over Muret in view of Tsuchida and in further view of International Patent Application No. WO 00/20998 by Miller et al. (Miller). Like my pending patent application, Miller is assigned to Teradata.

12. Miller discloses the general architecture of the Teradata database management system. Along with many other functions that are built-in to the Teradata system, the moving difference function MDIFF has long been a feature incorporated in the system. The Miller reference includes the moving difference function MDIFF in a Table labeled "Data Derivation Functions". The Table provides the following description of the MDIFF function: "[d]erive moving difference of value expression based on width and order." Miller provides further description of the MDIFF function as follows: "[t]he moving difference is calculated as the difference between the current value and the Nth previous value, where N equals the width".

13. At the time when the patent application was filed, I had extensive experience with Teradata's database management system and was familiar with its capabilities. In particular, I was aware that the database management system included an MDIFF function performing a moving difference calculation such as that described in Miller.

14. The patent specification refers specifically to Teradata's database management system, and more particularly, to the MDIFF function in NCR/Teradata's database management system. As such, the patent specification acknowledges the existence of MDIFF functionality such as that disclosed in Miller. Accordingly, the

disclosure of the MDIFF function in Miller adds no new information to what was already referred to in the patent specification.

15. As described in the patent specification, at the time of the invention, Teradata's database management system included a moving difference extension to SQL, known as "MDIFF". In NCR's Teradata manual in September, 2000 (Teradata RDBMS SQL Reference – Volume 5 Functions, V2R4.0, B035-1101-060A), portions of which are attached, MDIFF is described as an available OLAP computation. OLAP (On Line Analytical Processing) functions extended the Teradata query execution engine with the concept of an ordered set and with the ability to use the values from multiple rows in computing a new value. This functionality permitted an application designer to look into different dimensions of data (e.g., product/location/customer) and view data associated with those dimensions across any of the dimensions.

16. As described in the OLAP section of NCR's Teradata manual, MDIFF is used to provide a moving difference between a current row-column value and the preceding n^{th} row-column value. The Teradata manual further describes that a moving difference calculation is commonly performed for comparing activity for some variable in a current time period to the activity for the same variable in another time period a fixed distance in the past. The manual provides two examples of this, each using the MDIFF command for performing a moving difference computation.

17. Similarly, the MDIFF function disclosed in Miller is used to provide a moving difference between a current row value and a preceding N^{th} row value. However, unlike the OLAP section of NCR's Teradata manual, Miller does not provide any examples of the use of MDIFF.

18. The use of MDIFF in the claimed invention is the very opposite of the description of MDIFF in the Teradata manual and in Miller. For instance, in the manual, MDIFF is used to calculate the difference between variables such as volume or sales. Time is only a bracket between the comparisons. In contrast, for the claimed invention, and as described in the patent specification, time is the variable, and, in addition, it is the summation of these time differences that is being used to bracket the Internet session.

19. Prior to the claimed invention, one would not have known or have been motivated to utilize the MDIFF functionality to track the session of an Internet user. The Teradata manuals taught away from this type of use. Specifically, the manual provides that MDIFF was designed to compare activity for some variable across fixed times (e.g., monthly, weekly or quarterly); not to consider time itself as the variable. I, along with my co-inventor, have found that utilizing the moving difference functionality in a parallel plural processing database management system provides unexpected results when applied in the context of tracking Internet activity.

20. Subsequent use of the claimed invention has yielded significant benefits. What would otherwise take hours or days (using, for example, Muret's technique), or not work at all, can now be performed in just a few minutes. Furthermore, by utilizing the moving difference function across parallel databases, changes in programming can be accomplished easily, instead of separately programming each processor.

All statement made herein are of my own knowledge and are believed to be true. Further, these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of

Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-identified application or any patent issued thereon.

Date: 31 OCT 07

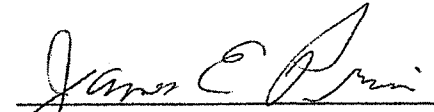

James E. Pricer

Exhibit: Excerpts from NCR Teradata RDBMS SQL Reference – Volume 5
Functions, V2R4.0, B035-1101-060A, September 2000